

ISOLATED DRIVE CIRCUITRY USED IN SWITCH-MODE POWER CONVERTERS

ABSTRACT OF THE DISCLOSURE

A drive transformer and associated circuitry for providing power and appropriate delays to primary switches and synchronous rectifiers in switch-mode power converters in a full-bridge topology. The invention takes advantage of the leakage inductances of the drive transformer windings as well as the input capacitance of the primary switches (MOSFETs) to provide the delays. No separate circuitry is needed to provide such delays, thereby providing reliability. Exemplary embodiments further disclose means to disable or enable the primary winding from a condition sensed on the secondary side even with a control and feedback circuit located on the secondary side. The invention further discloses means to use one drive transformer winding to control two switches completely out of phase.